a core rod dehydrating step for dehydrating said porous core rod to reduce an OH group concentration in the porous core rod to 0.8 ppb or less by weight ratio after the porous core rod producing step;

a core rod vitrifying step for forming the porous core rod to be transparent and vitrified to form a vitrified core rod after the core rod dehydrating step;

a core rod stretching step for heating and stretching said vitrified core rod after the core rod vitrifying step;

a second cladding forming step for depositing a second porous cladding around the vitrified core rod by vapor-phase deposition after the core rod stretching step;

a second cladding dehydrating step for dehydrating the second porous cladding so as to reduce an OH group concentration to 50 ppm or less by weight ratio after the second cladding forming step; and

a second cladding vitrifying step for forming said second porous cladding to be transparent and vitrified after the second cladding dehydrating step.--